C L A I M S

1. A process for producing a semifinished product consisting of a plurality of elongated reinforcing elements incorporated in an elastomer material, comprising the following steps:
- preparing at least one continuous elongated element (10) including at least one elongated reinforcing element and a raw elastomer coating applied to said reinforcing element;
- winding said continuous elongated element (10) on a forming support (15) to form coils (S) in contact with each other wound around a geometric axis (X) of said forming support (15);
- translating the coils (S) along said geometric axis (X) to a cutting region (28);
- cutting the coils (S) at the cutting region (28), to form a continuous semifinished product (9) having elongated reinforcing elements disposed parallel to each other, each extending between two opposite longitudinal edges of the semifinished product (9).

2. A process as claimed in claim 1, wherein preparation of the continuous elongated element (10) is carried out by movement of said at least one elongated reinforcing element lengthwise through an extruder (11) for extrusion of the elastomer coating.

3. A process as claimed in claim 2, wherein the continuous elongated element (10) coming out of the extruder (11) is directly connected with the coil (S) being laid down.

4. A process as claimed in claim 1, wherein said continuous elongated element (10) comprises a single

elongated reinforcing element.

5. A process as claimed in claim 1, wherein said continuous elongated element (10) comprises a plurality of elongated reinforcing elements disposed parallel and close to each other.

6. A process as claimed in claim 1, further comprising the step of guiding the continuous elongated element (10) along a guide path comprising an end stretch (18) directed to a cylindrical deposition surface (15a) presented by the forming support (15).

7. A process as claimed in claim 6, wherein said guide path further has a centring stretch (19) extending in a direction substantially coaxial with the forming support (15), and a deflection stretch (20) extending away from the centring stretch (19) to said end stretch (18).

8. A process as claimed in claim 6, wherein the winding step is carried out through rotation of the end stretch (18) of the guide path in a concentric manner with the geometric axis (X) of the forming support (15).

9. A process as claimed in claim 1, wherein two distinct elongated elements (10, 10a) are simultaneously submitted to the winding step on the forming support (15).

10. A process as claimed in claims 7 and 9, wherein said elongated elements (10, 10a) are guided along guide paths having axially opposite centring stretches (19, 19a).

11. A process as claimed in claim 1, wherein the translation step is repeated after formation of each coil (S).

12. A process as claimed in claim 1, wherein translation of the coils (S) is carried out by exerting a thrust component parallel to the geometric axis (X) of the forming support (15) on the last coil (S) laid on the forming support (15).

13. A process as claimed in claim 12, wherein the thrust component is exerted by translating a pusher element (27) onto the forming support (15), which pusher element is movable concentrically of said geometric axis (X) substantially in an axially offset plane with respect to a deposition point of the continuous elongated element (10) on the forming support itself.

14. A process as claimed in claim 12, wherein the axial thrust component is exerted by laying the continuous elongated element (10) on a lead-in portion (33) of the forming support (15) converging on the deposition surface (15a) from the opposite side with respect to the cutting region (28).

15. A process as claimed in claim 1, further comprising the step of counteracting translation of the coils (S) in opposition to said thrust component, to determine a compression of the elastomer coating of each coil (S) against the elastomer coating of the previously laid coil (S).

16. A process as claimed in claim 15, wherein the counter action to translation of the coils (S) is

progressively reduced in the direction of the cutting region (28).

17. A process as claimed in claim 12, wherein simultaneously with said thrust component an auxiliary thrust component directed against the forming support (15) is exerted on the last-laid coil (S).

18. A process as claimed in claim 1, wherein the step of cutting the coils (S) is carried out concurrently with the translation step.

19. A process as claimed in claim 1, wherein the step of cutting the coils (S) is carried out by arranging a cutter (34) operating in the translation direction of the coils themselves.

20. A process as claimed in claim 1, wherein the step of cutting the coils (S) is carried out after translation of same.

21. A process as claimed in claim 1, further comprising the step of transferring the coils (S) from the forming member (15) to an auxiliary support member (36) before carrying out the step of cutting the coils (S).

22. A process as claimed in claim 1, further comprising the step of translating the continuous semifinished product (9) onto a collecting plane (37) concurrently with translation of the coils (S) to the cutting region (28).

23. A process as claimed in claim 22, wherein the ends of the cut coils (S) are moved away from each other to lay the continuous semifinished product (9) on the

collecting plane (37).

24. A method of producing vehicle tyres, comprising the steps of:
- building a carcass structure (3) by at least the steps of:
- preparing at least one carcass ply (4) having respectively opposite first and second ends;
- mutually joining the opposite ends of the carcass ply (4) to form a carcass sleeve;
- associating annular reinforcing structures (5) with respective opposite edges of the carcass sleeve;
- giving said carcass structure (3) a toroidal conformation;
- preparing a belt structure (6) comprising at least one belt layer;
- applying said belt structure (6) to said carcass structure (3) at a radially external position;
- laterally applying a pair of sidewalls (8) to the carcass structure at respectively opposite sides thereof;
- applying a tread band (7) to said belt structure (6), at a radially external position;
- moulding and curing the tyre;
wherein preparation of at least one element selected between said at least one carcass ply (4) and said at least one belt layer comprises the step of cutting a section of predetermined length from a continuous semifinished product (9) obtained from a process as claimed in anyone of the preceding claims.

25. A method as claimed in claim 24, wherein said tread band (7) is applied by winding at least one first continuous elongated element of elastomer material in circumferential coils on the belt structure (6).

26. A method as claimed in claim 24, wherein said pair of sidewalls (8) is applied by winding at least one continuous elongated element of elastomer material in circumferential coils around said carcass structure (3).

27. An apparatus for producing a semifinished product comprising a plurality of elongated reinforcing elements incorporated in an elastomer material, comprising:
- at least one device for preparing at least one continuous elongated element (10) including at least one elongated reinforcing element coated with a raw elastomer material applied to said elongated reinforcing element;
- at least one device (14) for winding said continuous elongated element on a forming support (15) to form coils (S) in contact with each other and wound around a geometric axis (X) of the forming support (15);
- at least one device (26) for translating the coils (S) along said geometric axis (X) to a cutting region (28);
- at least one cutter (34) to cut the coils (S) at the cutting region (28), to form a continuous semifinished product having elongated reinforcing elements disposed parallel and close to each other, each extending between two opposite longitudinal edges of the semifinished product (9).

28. An apparatus as claimed in claim 27, wherein said preparation device comprises at least one extruder (11) for extrusion of the elastomer coating, and devices (12) for moving the elongated reinforcing element (10) lengthwise through the extruder (11).

29. An apparatus as claimed in claim 27, wherein said preparation device comprises at least one reel (13) for supply of the continuous elongated element (10).

30. An apparatus as claimed in claim 27, wherein said winding device (14) comprises a guide element (17) slidably engaging the continuous elongated element (20) according to a guide path having an end stretch (18) directed to a deposition surface (15a) presented by the forming support (15).

31. An apparatus as claimed in claim 30, wherein said guide element (17) further has a centring stretch (19) extending in a direction substantially coaxial with the forming support (15), and a deflection stretch (20) extending away from the centring stretch (19) to the end stretch (18).

32. An apparatus as claimed in claim 30, wherein said winding device (14) further comprises at least one unit (21) for driving the guide element (17) in rotation around the geometric axis (X) of the forming support (15).

33. An apparatus as claimed in claim 30, wherein said at least one guide element (17) further comprises at least one auxiliary centring stretch (19a) axially opposite to said centring stretch (19) to engage a second continuous elongated element (10a).

34. An apparatus as claimed in claim 27, wherein said translation devices (26) comprise at least one pusher element (27) movable around a deposition surface (15a) of the forming support (15) according to a trajectory

substantially lying in an axially offset plane relative to a deposition point of the continuous elongated element (10) on the forming support itself, to transmit an axial thrust component to the continuous elongated element (10) laid on the forming support (15).

35. An apparatus as claimed in claim 34, wherein said pusher element (27) is rigidly carried by said at least one winding device (14).

36. An apparatus as claimed in claim 34, further comprising at least one presser element (32) operatively connected with the pusher element (27) to transmit an auxiliary thrust component directed to the forming support (15) to the elongated element (9).

37. An apparatus as claimed in claim 27, wherein the forming support (15) has a deposition surface (15a) having at least one end portion (30) tapering towards the cutter (34).

38. An apparatus as claimed in claim 27, wherein said translation devices comprise a lead-in portion (33) of the forming support (15) converging on the deposition surface (15a) towards the cutting region (28) and set to receive the continuous elongated element (9) coming from the winding devices (14).

39. An apparatus as claimed in claim 27, wherein said translation devices (26) comprise at least one belt conveyor extending from the forming support (15) to the cutting region (28).

40. An apparatus as claimed in claim 38, wherein said cutter comprises a rotating blade (34) operating at a

longitudinal slit (35) formed in an auxiliary support member (36) axially extending in the continuation of the forming support (15).

41. A plant for manufacturing tyres for vehicle wheels, comprising:
- devices for preparing semifinished products adapted to form at least one constituent element of the tyre;
- at least one device for assembling said semifinished products;
- at least one moulding and curing device;
wherein said devices for preparing the semifinished products comprise an apparatus (1) as claimed in one or more of claims 27 to 40.